CONVERSION OF SEVEN COMPLETED MAPS INTO ARCGIS FOR PUBLICATION, PART 2. R. C. Anderson, T. J. Parker and J. F. Schroeder, Jet Propulsion Laboratory, California Institute of Technology, Robert.c.anderson@jpl.nasa.gov, timothy.j.parker@jpl.nasa.gov, jeffrey.f.schroeder@jpl.nasa.gov.

Introduction: Seven completed geologic quadrangles for Mars previously funded by the Planetary Geology and Geophysics program (PGG) and awarded to Tim Parker have been compiled in various formats (e.g. Canvas, Claris Draw, Photoshop, etc.) These maps need to be converted into ArcGIS and submitted to the United States Geological Survey (USGS) for final review and map publication. Parker completed each of these maps in these older programs prior to the USGS switch to standard ArcGIS format. Each of the Mars base maps are compiled from older Viking Orbiter data in west arco- graphic latitude/longitude coordinates. The USGS has since replaced the Viking based maps and coordinate system with the newer Themis daytime IR global mosaic and MOLA 2000 aero-centric system. Because there were no requests for additional funds to meet these new requirements by the PI, the maps became inactive. With the recent push by NASA and the USGS to get all new requirements by the PI, the maps became inactive. The review and verification that the units are consistent across boundaries. Referencing Viking-based contacts to the THEMIS Day IR base map.

Conversion of the first 3 maps, of East Acidalia, is now complete, as planned for the first year of this two-year project. These maps will be submitted for peer-review by this meeting. We have begun conversion of the four 1:500,000 scale maps of Argyre Planitia as a 1:1,000,000 scale map as primary task for the second year of this project.

We emphasize that the goal of this project is not to start from scratch and remap these seven quadrangles, but to retrace and adapt these seven completed quadrangles into two 1:1,000,000-scale new maps based on the mapping completed Parker onto the newer Themis IR base maps, produce these new maps through the USGS, and make them accessible to the greater planetary science community for use.

East Acidalia Planitia/West Deuteronilus Mensae: To create a single map for East Acidalia Planitia/West Deuteronilus Mensae, the following three USGS quadrangles have been combined at their shared borders: MTM-45357, MTM-45352, and MTM-45347 (Figure 2). This set of maps has already gone through Phase 1 of the external review by the USGS (J. Plescia and J. Moore, reviewers). The review comments are being incorporated into an updated DOMU for the combined 1:1,000,000 map.

Central and Southeast Argyre Planitia: To create a single map for Central and Southeast Argyre Planitia, the following four USGS quadrangles have been merged: MTM-50036, MTM-50043, MTM-55036, and MTM-55043 (Figure 2). Four 1:500,000-scale geologic maps of central and southern Argyre were produced in the early to mid 90s, and received a preliminary (non formal) review at that time. The following processes are currently underway:

1. Verification that the units are consistent across boundaries. Referencing Viking-based contacts to the THEMIS Day IR base map.
2. Converting all mapping components digitally to a GIS database. This includes creating in ArcGIS: GeoContacts, GeoUnits, Location Features, Linear Features, Surface Features, and Nomenclature. Minimal remapping is required to adapt Tim Parker’s four Argyre quadrangles to the new 1:1,000,000-scale map.
3. Update DOMU describing each of the GeoUnits. The DOMU will need to be formatted into a chart following new USGS guidelines.
4. Update COMU describing relative timing and ages of major map units and geologic events. The COMU will follow new USGS guidelines.
5. Update Explanation of Map Symbols (EOMS) section from Parker’s PhD chapter on Argyre [1], and MS transcribe it into ArcGIS format.

Figure 1: Completed Central and Southeast Argyre Planitia map by T. Parker. All four quadrangles are mapped and completed.

Figure 2: Completed East Acidalia Planitia/West Deuteronilus Mensae map by T. Parker, B. Franklin, and J. Schroeder. Top: THEMIS Day IR base, ArcGIS. Bottom: Correlation of Map Units.